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Continuous change in education is requiring educational administrators to plan for the distant future with as much precision as they now do for the immediate future. Recently, major advances in the planning-budgeting process have become available to educators in the form of PPBS. Fiduciary budgets, which have been used in most schools since the early 1900's, have the following problems: (1) They are incremental budgets relying heavily on what was done the previous year, (2) they develop meaningless comparative data, (3) they do not reveal the source of funds, and (4) they are written only for the following year. Program budgeting, on the other hand, offers the administrator the opportunity to design a long term plan for creative instruction. PPBS delineates program integration and highlights alternatives in a new way by aligning objectives and costs. PPBS differs from present budgeting procedures in that it (1) compels administrators to give some thought to alternatives, (2) stresses the significance of minor costs over a long period of time, (3) helps relate the cost of a program to its merits, and (4) links teacher aids, supporting activities, research, and development to subject matter in terms of time and cost. (HW)

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PPBS & EDUCATION

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MARCH, 1968

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Preface

In March of 1967, one hundred leaders in education from throughout New England gathered in Lynnfield, Massachusetts to participate in a three–day 'Seminar on Planning–Programming–Budgeting Systems.' The conference was sponsored by the New England Council for the Advancement of School Administration, the New England Catholic Education Center, the New England Educational Assessment Project, the Education Division of the Raytheon Company, and the New England School Development Council. Among the speakers was Edward L. Katzenbach, Vice President and General Manager of Raytheon's Education Division, who addressed the opening session of the conference.

'Planning–Programming–Budgeting Systems: PPBS and Education' is the text of the speech delivered by Dr. Katzenbach at the Lynnfield seminar. He describes the fundamentals of program budgeting and its value as a planning tool for the educational decision maker. Although he feels that PPBS is no panacea, Dr. Katzenbach concludes that 'there are no limits to program budgeting.'

Dr. Katzenbach's experience in education is extensive. Before joining Raytheon, he was Director of the Commission on Administrative Affairs of the American Council on Education. In this post, he directed studies on program budgeting for colleges and universities, on the administrative challenge of the computer on the campus, and on the educational needs of business

and industry. Earlier, he served for three and a half years as Deputy Assistant Secretary of Defense for Education, coordinating the education of children of military personnel stationed in twenty–eight nations. At the same time, he directed an information network of radio and television stations around the world. Dr. Katzenbach has held the position of Director of the Defense Studies Program at Harvard University, and has also taught on the faculties of Brandeis, Columbia, and Princeton.

Alfred Dexter Simpson, the founder of NESDEC, encouraged an interest in school finance, which has been sustained by the Council through conferences and publications. This publication is an outgrowth of that emphasis.*

**See for example, Thomas Payzant, 'Approaches to the Analysis of School Costs: An Introduction' (Cambridge, Massachusetts: New England School Development Council, 1967).*

PLANNING PROGRAMMING BUDGETING SYSTEMS : PPBS & EDUCATION

EDWARD L. KATZENBACH

CONTINUOUS change is the dominant force in society and education. Educational administrators, therefore, must be able to plan for the distant future with as much precision as they now do for the immediate future. This situation requires fresh approaches to long–range decision making, based on a growing capability to predict and to satisfy three– to five–year school objectives. Advance planning, as it specifically relates to educational budgeting, is critically needed. The desire to group the growing student population in order to meet individual needs, the increasing quantity of information that must be taught, and the rapid development and implementation of new instructional materials and technology demand dramatic innovations in planning and budgeting functions.

Recently, major advances in the planning–budgeting process have become available to educators, as the Federal government has implemented new and successful techniques. In August of 1965, President Johnson circulated a memorandum to all government agencies

calling for a new Planning–Programming–Budgeting System (PPBS). Washington's new PPBS techniques have added considerably to the nation's bank of planning knowledge, for they have brought about greater efficiency in the allocation of resources. The result has been increased benefits from the government's many activities. These techniques should also be applied to education, so that schools, colleges, and universities may effect positive change in the years ahead.

Planning is a difficult and everchanging process that requires constant attention; yet only with planning can education achieve its goals. Although even at its best the planning function does not provide answers, it does offer choices and spur thinking about improved educational methods and techniques. If the planning process is properly accomplished, history will not be a load to drag, but a foundation on which to build for the future. Too frequently, however, educational budgeting systems are not designed for the vital planning and programming functions. Fiduciary budgets, now used in most schools, follow a common pattern established in the early 1900's, and their problems are manifold. First, they are incremental budgets, relying heavily on what was done the previous year. They are updated by increases of two or five percent—increases that are often related to the cost of living or some other established norm. Incremental budgets, then, simply sustain the previous year's performance for no particular reason and at increased expense.

A second disadvantage of the present budgetary system is that it develops meaningless comparative data that shackle the administrator. Total costs are calculated on the basis of expenses per student at

individual grade levels. Research in the preparation of budgets of the per capita type often goes no deeper than seeking answers to such questions as, 'How much will it cost to put a boy through high school?' or 'How much will it cost to educate a pupil in this community?' This 'formula' budget is inadequate not only because its validity rests solely on comparing it with another budget, but also because such a budget is easily sliced and is generally cut indiscriminately. Additionally, formula budgets are usually accompanied by the line item budget, another unsatisfactory planning tool. Line item budgets are compiled with deletions in mind. Many items are inserted merely for the school board or the trustees to remove. The major disadvantage of a line item budget in terms of planning, however, is that none of its items are related to anything else.

Fiduciary budgets do not reveal the source of funds. Rather, they feature the constraints on receipt and expenditure of funds. Line item budgets, for example, indicate the amount that may be spent for secretaries or for art materials; this is constraint within the budget, expenses that cannot be moved from one area of the budget to another. The fiduciary budget, then, is merely an aggregate of expenditures for such things as administration and salaries, and possibly research, guidance, student services, maintenance, cafeterias, bussing, and so on. Additionally, fiduciary budgets are written for the following year, not for two or three or five years hence. This, in itself, is a constraining link to the immediate past.

Program budgeting, on the other hand, offers the educational administrator the capability of creating

a self–fulfilling prophecy: the opportunity to design a long–term plan for creative instruction. PPBS means planning, inseparable from educational objectives. It is the setting of goals, the analysis of desired achievement —this year, next year, five years from now—not cost figures, that is the most important aspect of a planning document.

PPBS delineates program integration and highlights alternatives in a wholly new way. [Figure 1.] Basically, it aligns policy objectives and costs. PPBS permits

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PLANNING ——— Establishing objectives

PROGRAMMING —— Combining activities and events to produce distinguishable results

BUDGETING ——— Allocating resources

PPB becomes a System when the parts are connected for purposes of analysis.

FIG. 1. PPBS—What is it?

the setting of necessary goals, gives the perspective needed to look at these objectives in terms of real dollars, and provides a link between things bought (input) and things accomplished (output). It forces decisions between valid choices, and provides a means by which objectives may be weighed and performance continually reviewed, while moving toward achieving the set goals. Essentially, PPBS is a worthwhile tool for analysing the complexities of planning, programming, and budgeting, and relating these functions to one

another, in a more effective, system–oriented way. It should be emphasized, however, that utilization of PPBS does not make the administrator's job an easier one. Indeed, by forcing him to make clear–cut decisions from a large array of well–defined objectives, it challenges his ability as a decision maker.

Traditionally, plans for improved education have been developed without an eye to the budget, and vice versa. The result has been educational plans with poorly defined costs and well–defined purposes, or budgets with well–defined costs and poorly defined purposes. The concept behind PPBS is to force attention on the organization as a whole, relating educational plans and purposes to realistic and meaningful costs. Programming provides the catalyst.

In order to program effectively, one must think in terms of an education system: This has come to mean a set of related elements arranged to perform some activity. [Figure 2.] An education system includes

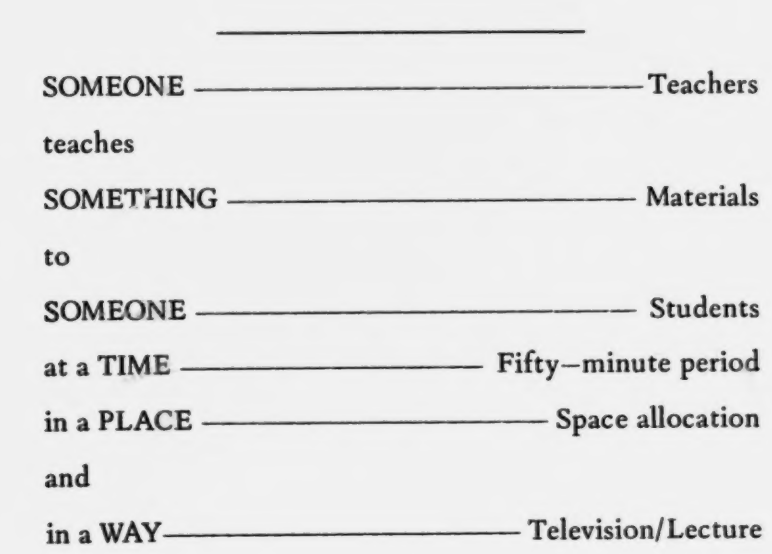

FIG. 2. An education system

teachers, materials, students, time, classrooms, and teaching technique, such as television or lecture. These elements the raw materials of planning, are used in multiple combinations to formulate the objectives of an entire school system over a number of years. Within this context, individual programs in each subject area are planned, *in concert with the budgeting function,* for both the near and the long term. The plan then becomes a system; the system becomes an entity that includes teachers, materials, students, time, space, techniques, and most important, goals whose costs have been figured for the life of the plan.

How does PPBS differ from present budgeting procedure? First, it compels administrators to give some thought to alternatives. A school system, for example, might study a proposal to initiate a three–year remedial reading program and consider the cost of the desired remedial reading goals. PPBS procedure would then require a decision about whether the reading program merited the cost, or whether some other investment, such as a guidance counseling facility, would be more desirable. Additionally, PPBS would force the school authorities to consider the kinds of remedial work that could be instituted. It would also spur thought about the various possible approaches of the school to guidance counseling.

PPBS also stresses the significance of minor costs over a long period of time. This is probably the most important aspect of the technique. The budget is projected over a three– or five–year period, so that the expenditure of small sums can be clearly shown. Five thousand dollars may not be an impressive amount in a one–year budget, but when multiplied by five it

becomes a substantial sum of money. PPBS exposes small costs so that they can be analysed, and consequently, used more effectively. Small expenditures are important because there are rarely any large sums available for innovations in creative instruction. Since the bulk of school budgets flows into salaries, maintenance, student services, and the like, small increments are highly valuable. PPBS demonstrates that these sums augment over time, and that the total amount is actually significant enough to contribute to creative instruction.

Program budgeting also helps relate the cost of a program to its merits. A course or a program can be evaluated only when all costs are known. For example, the salary of an art teacher and his operations budget, taken together, might be a larger amount in total dollars than that spent on many other teachers on the staff. In this case, it would be necessary to combine the cost of art materials with salary and space requirements in order to make a judgment about the value per dollar of Course A versus that of Course B.

PPBS links teacher aids, supporting activities, research, and development to subject matter in terms of time and cost. All the elements of the education system are placed in the perspectives of future time, of objectives, of expense. Thus, a program budget makes it possible to plan adequately, rather than half badly. If a program budget, in addition to a line item budget, is presented to the school board or the trustees, they have the opportunity to delete a program without disrupting the total plan. PPBS makes the overall objectives quite clear, so that the board may add or cut programs within the context of the complete plan.

Planning and budgeting are emotional functions, affecting the future of people. Since objectivity in planning is essential, the psychological effect of PPBS is also important. Experience demonstrates that the objectivity of the participants is directly related to the length of the plan: One–year plans engender less objectivity than two–year plans, and so on. If the future is long term, and planning involves three– to five–year segments, teachers that ordinarily jealously guard individual programs become less selfish and more concerned with the growth and development of the entire school system. In short, people tend to be less preoccupied with their own programs, and more concerned with the so–called common good, when plans are made on a long–term basis. Furthermore, it has been found that budgeting for long time segments brings really important needs to the surface. Requests for funds are more likely to concern vital desires, if it is known that it will be some time before another request can be made.

PPBS is often mistakenly thought to be accompanied by problems of accounting. It is argued that if we all have to submit annual line item budgets, program budgeting will create tremendous accounting burdens. PPBS, however, is *planning,* not accounting; planning is the responsibility of administrators, not accountants. If accountants are involved deeply in the process, the purpose of PPBS is defeated. The technique does not require that administrators figure program costs to the last ten cents—close estimates are sufficient. At Raytheon, we round off to zeros when we budget our five–year plans for our president. Although he realizes that the cost figures are only approximate, he also

knows that they are reasonably consistent with our goals. Because we use PPBS, we can estimate the amount of money necessary for expansion, research, and product development. The same techniques can be applied in educational program budgeting. They will enable the administrator to view problems more clearly, and help him to solve them within the framework of the future.

It should be remembered, however, that PPBS is an art, not a science. It is a highly personal exercise. A budget system must grow and change with the times, and its form must be expected to reflect the complexion of the administrator. There are no limits to program budgeting, just as there are no limits to the methods of improving education.

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